

What is Arsenic Trioxide?

Arsenic trioxide is an anti-cancer agent used in the treatment of acute promyelocytic leukaemia (APL or APML).

How does it work?

Arsenic trioxide causes morphological changes to cells and cause DNA to fragment leading to the death of the cell. It also appears to correct the gene responsible for making the flawed protein that causes APL.

How is it given?

Arsenic trioxide is given as an intravenous (IV) infusion.

Special instructions:

- Arsenic can cause irregular electrical conduction within the heart and irregular heart rhythm (arrhythmias) which can be life threatening. Prior to and during therapy with arsenic, your heart rhythm and function will be checked and the levels of certain salts in the body (like potassium, calcium, and magnesium) corrected. Drugs that may interact with arsenic will be stopped.
- Some patients with APL treated with arsenic have experienced a syndrome called APL differentiation syndrome. This syndrome includes fever, shortness of breath, weight gain, and fluid build-up in the lungs and around the heart. This syndrome can be life threatening. In the majority of patients, treatment with arsenic trioxide does not need to stop.

Possible Side Effects:

Listed below, but not limited to, are the more commonly experienced side effects that you may see. The side effects your child might experience may be temporary and some may be permanent.

	Likely Happens to 21-100 children out of every 100	Less Likely Happens to 5-20 children out of every 100
Immediate Within 1-2 days of receiving the medicine	<ul style="list-style-type: none"> ▪ Diarrhoea ▪ Nausea and/or vomiting ▪ Shortness of breath ▪ Skin rash with the presence of macules (flat discoloured area) and papules (raised bump) ▪ Itching ▪ Abnormality of the conduction (the progression of electrical impulses through the heart which cause the heart to beat) of the heart 	<ul style="list-style-type: none"> ▪ Cough ▪ High blood pressure or low blood pressure ▪ Reddening of the face with feeling of warmth ▪ A condition where fluid and protein leak out of tiny blood vessels and flow into surrounding tissues, resulting in dangerously low blood pressure. This may lead to multiple organ failure such as kidney, heart or liver failure and shock ▪ Hives ▪ Sudden, uncontrolled narrowing of the airways in the lungs that may cause difficulty breathing, coughing, and wheezing ▪ Pain (general, back, neck, limbs, bone, non-cardiac chest pain) ▪ Redness, fluid build-up and pain at the injection site ▪ Shaking chills ▪ Abnormality of the conduction of electrical impulses through the heart which cause an unpleasant sensation of irregular, and/or forceful beating of the heart, or a fast heartbeat which may cause pain in the chest ▪ Irregular heartbeat resulting from an abnormality in the one of the lower chambers of the heart (ventricle)

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	Likely Happens to 21-100 children out of every 100	Less Likely Happens to 5-20 children out of every 100
Prompt Within 2-3 weeks, prior to the next course	<ul style="list-style-type: none"> Headaches Infection Fever A feeling of extreme tiredness not relieved by sleep Fewer white platelets in the blood. A low number of white blood cells may make it easier to get infections. Fewer platelets may cause you to bruise and bleed more easily 	<ul style="list-style-type: none"> Fewer white blood cells, red blood cells and platelets in the blood. A lower number of white blood cells may make it easier to get infections. Fewer red blood cells may make you feel tired and weak. Fewer platelets may cause you to bruise and bleed more easily Pain or bloating in the abdomen Inflammation and/or sores in the mouth that may make swallowing difficult and are painful (painful mouth sores) Ringing in the ears Irritation of sores in the lining of the throat, voice box, windpipe, small bowel, rectum, and anus Constipation Dry mouth Sore throat Toothache Heartburn or upset stomach Inflammation of the pancreas which causes severe pain in the abdomen and back and may increase the blood sugar Fluid build-up (swelling) in the face, eyelids arms and legs Infection associated with a decrease in a type of white blood cell (lymphocyte) Weight loss or weight gain Loss of appetite Anxiety Difficulty sleeping or falling asleep Stuffy or runny nose, sneezing, nose bleed Fluid build-up in between the layer of tissue that line the lungs and chest cavity that can make you feel short of breath Acute Promyelocytic Leukemia (APL) syndrome – see above Temporary hair loss Skin change including dry skin, thickening, or darkening Excessive sweating Tiny reddish or purplish spots containing blood that appears in skin or mucous membrane as a result of localized bleeding Inflammation (swelling and redness) of the skin A bruising of the skin caused by the escape of blood into the tissues from ruptured blood vessels Increase in the blood of certain enzymes or bilirubin (a substance that comes from the liver breaking down waste products) which could indicate liver, or bile duct irritation or damage Increased levels of creatinine in the blood which could mean kidney damage Sudden or traumatic injury to the kidney Presence of excessive protein in the urine which may indicate kidney damage An increase in enzymes called lipase and amylase that helps break down fats and carbohydrates in the body. An increase in the level may mean that the pancreas is damaged. Condition where the blood contains more acid than normal High levels of sugar in the blood that may require treatment Changes in the salt levels in your body (potassium and magnesium) which may require you to supplements Aches and pains in the joints and muscles Muscle weakness and/or wasting (shrinking) Dizziness (or sensation of light-headedness, unsteadiness, or giddiness) Numbness and tingling in the hands and feet commonly known as “needles and pins” Nerve damage that may cause pain, burning, numbness, and tingling in the hands and feet and may affect the ability to perform tasks that require fine movements

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This information sheet is a brief overview. Each individual can respond differently to the medication, it is vital that you communicate all signs and symptoms you observe to your doctor or nurse.

If you have any questions about the information provided please discuss them with your oncologist or haematologist.

Further information can be obtained from your doctor, nurse or pharmacist or at the following website:
<http://medsafe.govt.nz/consumers/medicine/where.asp>